Duration: 3 hrs   **[Max Marks: 80]**

N.B. : (1) Question No 1 is Compulsory.
       (2) Attempt any three questions out of the remaining five.
       (3) All questions carry equal marks.
       (4) Assume suitable data, if required and state it clearly.

1   Attempt any FOUR   **[20]**

  a   Explain Bottom up Integration Testing with one example

  b   How to test simple loop in a program?

  c   Explain Logic Coverage Criteria for Statement Coverage.

  d   Explain State Table Based testing with example.

  e   Discuss the features and use of Bugzilla Testing Tool.

2 a Consider the program for calculating the factorial of a number.   **[10]**

```
main()
{
int number;
int fact();
1. clrscr();
2. printf("Enter the number whose factorial is to be found out");
3. scanf("%d", &number);
4. if(number <0)
5. printf("Facorial cannot be defi ned for this number);
6. else
7. printf("Factorial is %d", fact(number));
8. }
int fact(int number)
{
int index;
1. int product =1;
2. for(index=1; index<=number; index++)
3. product = product * index;
4. return(product);
5. }
```

(A) Draw the DD graph for the program.
(B) Calculate the individual cyclomatic complexity number for main() and fact() and
then, the cyclomatic complexity for the whole program.

  b   What is Agile testing? Explain challenges in Agile Testing   **[10]**

3 a   Explain the process of test suite prioritization with its type in detail with example.   **[10]**

   b   What are the Key elements of Test Management? Explain the structure of testing   **[10]**
       group.

4 a   What are graph metrics? Explain with an example how to calculate cyclomatic   **[10]**
       complexity using graph metrics.

   b   Why is automation important in testing? What are the guidelines for selecting   **[10]**
       testing tools?

5 a   What is Mutation Testing? Explain primary mutant with an example   **[10]**

   b   Classify different types of bugs based on the Software development lifecycle   **[10]**
       with example

6 a   Explain ISO 9000:2000 standard.   **[10]**

   b   What is performance testing? Why is performance testing important?   **[10]**

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